

Analysis of household food procurement practices from a sustainability perspective in grand Lomé, Togo

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Abstract: Over the past ten years, African cities have been trying to move towards sustainable food supply by setting up short food distribution circuits (CCs). This article analyzes household behavior towards CCs in Grand Lomé, Togo, using a survey of 963 randomly sampled households, 13 focus groups, 6 individual interviews, as well as observation. Excel spreadsheets and R-Studio software were used to process and analyze quantitative data, while content analysis was applied to the verbal statements collected. At the end of the surveys, multiple-choice questions enabled us to detect, firstly, a low level of use of CCs, with 8.79%, 7.73% and 4.66% of respondents respectively resorting to "online purchasing", "self-production of food" and "the farmer's home". On the other hand, 92.37% of households go to public markets and 81.99% use informal food shops. Next, a correlation was observed between the "type of shop" frequented and "profession": salaried workers, shopkeepers and students go to quality shops, while artisans make do with lower-quality shops. Finally, the main reasons for visiting markets are "affordability" and "physical proximity", while "quality" and the "local character of the food" are less important. Actions are proposed to increase the role of CCs in this city.

Keywords: African cities, Food distribution channels, Grand Lomé, Short food chains, Sustainable food, Togo, Urban households.

1. Introduction

In Africa, the urban population is growing faster than the rural population, and according to forecasts, 2/3 of Africans will be living in cities by 2050 [1]. The food challenges associated with this rapid urbanization are enormous. Indeed, the increasing distance of cities from their food supply zones requires a growing number of intermediaries (transport, storage, packaging, processing) to ensure that food reaches city dwellers. What's more, as city dwellers' incomes rise and work organization changes, urban lifestyles now demand fast, improved food services [2]. In this case, the industrialized model of food supply, also known as the dominant food system, remains effective in meeting the needs of urban consumers. This mode of supply is essentially characterized by the technological mass production, processing and preservation of food, the globalization of trade, the concentration of agri-food players and the rise of digital technology [3]. This is leading to the industrialization of food systems, which favors economies of scale by reducing production costs, and also facilitates greater food availability and diversity. However, the expansion of the dominant food system is creating a geographical, temporal and cultural distance between agricultural production and final consumption [2], with negative consequences for human and environmental health, as well as for the local economy. Indeed, the direct purchase of agricultural products from farmers is declining, in favor of the supply of imported manufactured products, which are responsible for the nutritional deficiencies and obesity that affect the most vulnerable households in Africa [4]. Long-distance transport from production basins to final

consumption increases environmental concerns: in 2015, food systems emitted 34% of greenhouse gas emissions [5]. In addition, local farmers and small businesses find it difficult to access urban markets, which are flooded with imported processed products from the long supply chain [6,7].

To overcome these challenges, the "sustainable food system" (SAD) is advocated as an alternative to the agro-industrial model. The latter is understood as a collaborative territorial network that integrates the production, processing, distribution and consumption of food products with the aim of enhancing the environmental, economic and social health of the community [8]. In the literature, the whole range of alternatives to the dominant food system is referred to under the umbrella of proximity, with various names such as relocalization or food territorialization [9]. All these names are part of a broad vision that advocates shortening food chains to bring consumers and local food suppliers closer together. The concrete operationalization of these notions on the ground can be seen in the local short circuit (CC), defined as "a supply food chain is considered short when the geographic distance between the farm and the consumer is perceived as low and/or when the number of intermediaries between the producer and the consumer is reduced [10]. The distinctive features of CCs range from the elimination of certain stages in the food supply chain, to a reduction in the geographical distance traveled by products, as well as a reorganization of the more direct interactions between agriculture and final consumption [2]. The positive effects of CC are linked in particular to economic benefits for local farmers and consumers, improved nutrition, preservation of the environment, and enhanced local development.

In the Grand Lomé conurbation, CC can be seen in several urban initiatives. First of all, we have "food self-production", which in part enables farming households to directly consume produce from their fields and home gardens. Even if agrarian land is not secure due to the prevailing pressure on land tenure, family farming is resisting to the extent that crops are being grown on small plots of land [11]. This is how some farmers manage to produce food for family consumption. On the other hand, CCs have existed since 2015, thanks to partnerships forged between civil society organizations, farmers' organizations, the government and development partners. This collaboration has led to the creation of two main channels for the direct sale of food products to consumers. These are the urban farms known as Associations for the preservation of peasant agriculture (AMAP), which produce and distribute organic market garden produce directly via "online sales". There are also "farmer's houses", or stores selling local products (rice, local cereal flours, tomato concentrate, ground spices, vegetable oil, etc.). These sales outlets promote only local foods produced and processed by local farmers' organizations.

However, older markets continue to attract more buyers. Several food outlets in the city of Grand Lomé play a major role in the distribution of food from the food system. Firstly, there are the "public markets", where most imported processed foods are sold. Even if some of the products sold in these markets (notably fresh vegetables, fruit and local meat) are of local origin, the high number of intermediaries involved in transporting food from production to final consumption reduces the quality of food sold via public markets. In addition, public markets are not only dilapidated and in a state of disrepair, but also unhygienic due to the lack of adequate sanitation facilities such as toilets, drainage channels and a waste management system [12,13]. This hygienic deficiency makes the sales environment unsanitary, polluting the products on display all day long. Secondly, unhealthy markets also include "street traders", also known as "informal food traders". These forms of distribution, carried out mainly by women, are predominant in African cities [14] and are characterized by small-scale food sales activities (small stalls, kiosks, itinerant food sales, small spontaneous markets) that are hardly subject to monetary, regulatory or institutional arrangements [15]. Informal channels play a major role in the stability of the food supply and also facilitate access to food products for disadvantaged households [14,15,16]. However, it should be noted that the products sold in these street shops are very often displayed in unhealthy physical environments marked by poor waste and sewage management [17]. Yet these street food sales escape the control of public institutions, plagued by jurisdictional conflicts, insufficient coordination and inadequate material, human and financial resources [18]. Last but not least, there are also general food "boutiques" and "supermarkets" where processed products are distributed, largely from foreign industries [16]. Boutiques abound in the neighborhoods, but the origin

of the products and their preservation do not meet food safety requirements. On the other hand, supermarkets offering adequate hygienic protection are few in number and unevenly distributed across the city. In West Africa, food sold in supermarkets is generally more expensive than the purchasing power of a large proportion of the population [16,19]. Given the intrinsic characteristics of each food outlet, which are the most popular? What are the reasons for choosing food outlets? Are food procurement practices in Grand Lomé sustainable?

Indeed, sustainable food is not just about the availability and accessibility of sufficient food. It also advocates a transition towards "sustainable food systems" capable of promoting "sustainable diets" that are environmentally friendly, culturally acceptable, nutritionally adequate, safe and healthy [20]. This article mainly analyzes the food procurement behavior of households in Grand Lomé from a proximity perspective. CCs are the only channels capable of guaranteeing local food consumption, i.e. providing healthy, green and nutritious products locally, with a view to enhancing consumers' physical vitality [21]. In this article, we therefore set out to find out how consumers in Grand Lomé behave towards existing food distribution CCs. Specifically, these are:

- Measure levels of use of food procurement sites by households in Grand Lomé;
- Identify the individual variables that influence the food procurement behavior of households in Grand Lomé;
- Determine the main reasons why households in Grand Lomé visit food outlets.

2. Materials and Methods

2.1. Study Area

The area covered by this research is Grand Lomé (the capital of Togo). This urban area is bounded to the south by the Atlantic Ocean, to the north by the Zio and Avé prefectures, to the east by the Lacs prefecture and to the west by the Aflao-Ghana border. The city comprises two (02) prefectures (Golfe and Agoè-Nyivé) and thirteen (13) communes (*fig.1*). Grand Lomé remains Togo's most populous city, with 2,188,376 souls [22]. This macrocephaly is the result of its extreme attractiveness due to its potential in terms of port, airport and university infrastructures, as well as major vocational training schools. The city's main activities are administrative services, trade, crafts and business.

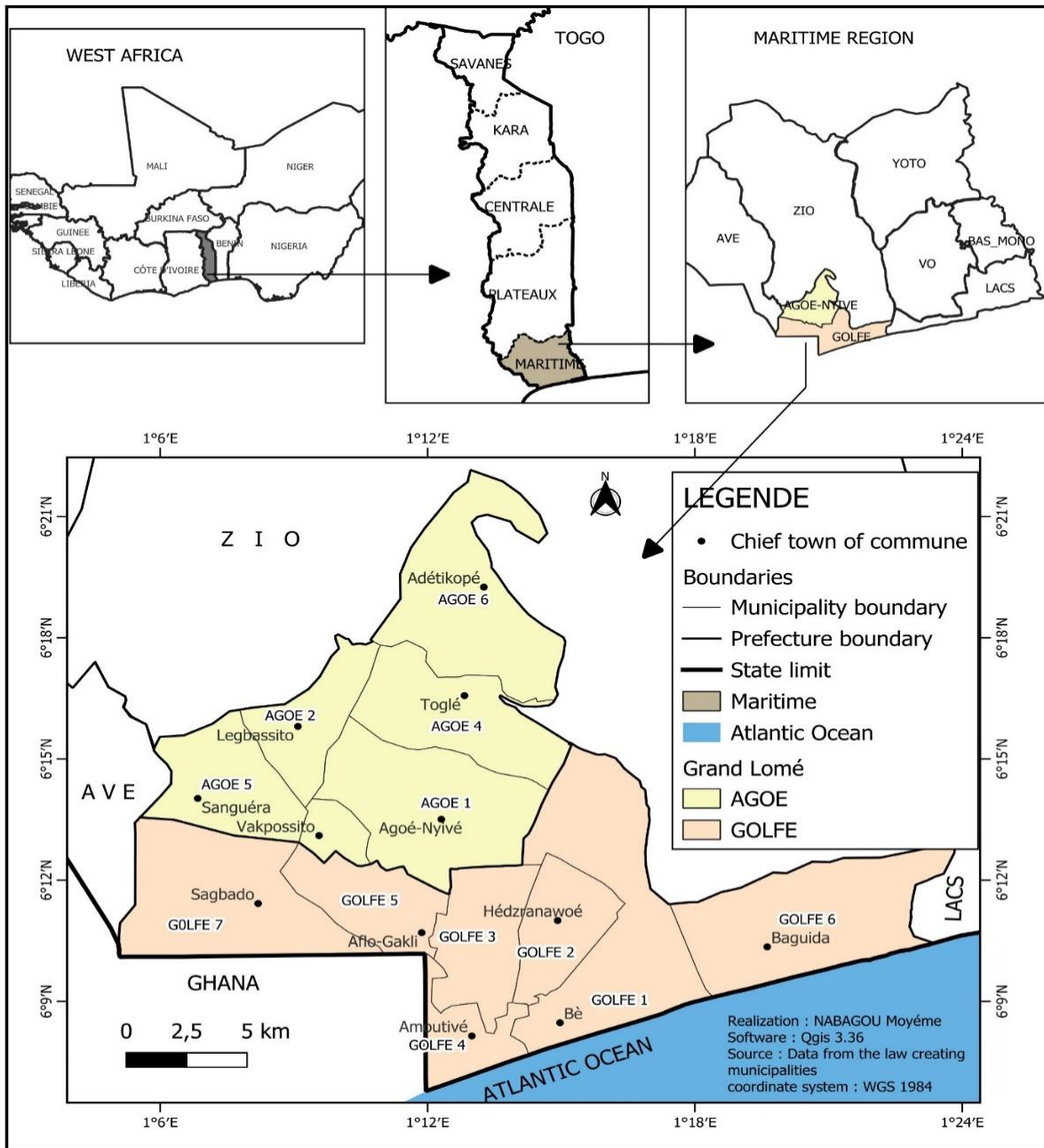


Figure 1.
Map of Grand Lomé showing its prefectures and communes.

2.2. Data Collection and Processing

The article used a mixed (quantitative and qualitative) approach to gather the empirical data essential to achieving the objectives set. The target population for this research is made up of: consumers (households), CC promoters and local authorities.

2.2.1. Sampling and Administration of The Questionnaire to Heads of Household

The quantitative survey targeted only the household reference persons referred to in this research as "heads of household". This choice of household heads is explained by the fact that they not only incur expenses to feed the family, but also make the bulk of food purchases. As a result, they have more information about the main places they buy food and the reasons behind their choices. The sample size was determined using Daniel Schwartz's statistical formula, presented as follows :

$$n = \frac{[(z_a)^2 \times P(1 - P)]}{d^2}$$

With "n" = sample size ; "Za": deviation set at 1.96 corresponding to a confidence level of 95%; "d": margin of error set at 6% and "P": proportion of households per commune.

Out of a total of 533,930 households in the city of Grand Lomé, the numerical application of this formula made it possible to interview 963 households spread across the 13 communes of Greater Lomé. The number of respondents to be interviewed in each urban commune was calculated using data from the Fifth General Census of Population and Housing [22] (Table 1). A questionnaire was administered to respondents on a voluntary basis. In other words, interviewers entered homes to interview heads of household who were willing to listen to the interviewer. Indirect administration (face-to-face) was the preferred method, and was carried out by a team of 16 peoples, including 13 interviewers, 02 supervisors and a 01 coordinator. Quantitative data collection took place from August 05 to September 25, 2022 in Grand Lomé. The number of people reached in each municipality is shown in the table below:

Table 2.
Distribution of respondents by commune in Grand Lomé.

Commune	Number of households	Number of households surveyed	Proportion (%)
Agoè-Nyivé 1	77 379	132	14
Agoè-Nyivé 2	31 260	59	6
Agoè-Nyivé 3	11 599	23	2
Agoè-Nyivé 4	37 666	70	7
Agoè-Nyivé 5	30 511	57	6
Agoè-Nyivé 6	26 877	51	5
Golfe 1	85 744	144	16
Golfe 2	33 208	62	6
Golfe 3	12 870	25	2
Golfe 4	38 010	71	7
Golfe 5	41 642	77	8
Golfe 6	44 283	81	8
Golfe 7	62 881	111	12
Total	533 930	963	100

2.2.2. Individual Interviews with Urban Players

In order to understand the governance of food distribution and the obstacles to the development of local food distribution initiatives, individual interviews are organized with two types of urban actors : local authorities and CC promoters. Two interview guides were drawn up according to the information sought from each type of stakeholder. The first was used to interview two (02) municipalities (Agoé-Nyivé 4 and Agoé-Nyivé 6) chosen for their agricultural practices. The aim was therefore to find out about their role in promoting urban agriculture, on the one hand, and, on the other, the interactions that take place between these local elected officials and the organizations that promote CC. The second guide enabled us to collect the obstacles to the extension of CCs from four (04) promoters. Appointments and interviews with the target actors took place between October 05 and 30, 2022.

2.2.3. Focus Groups with Households

The quantitative nature of the survey does not allow consumers to express their opinions freely and in depth. Therefore, 13 focus groups, one per urban commune, were organized between November 01 and December 31, 2022. Each group discussion is made up of 10 heads of household invited in advance by means of a written letter containing practical information about the meeting (description of the subject, objectives, place and date, etc.). With the help of community leaders, households participating in the discussions were identified on the basis of their availability. They confirmed their attendance one week before the group interviews were to take place. Each group was led by a moderator (the researcher himself) and an observer. The 13 interviewers, who had been trained to collect quantitative data from heads of households, each played the role of observer for his or her area of assignment during the group discussions. The use of a single interview guide, designed and used for each session, enabled us to collect verbal statements recorded with a microphone.

2.2.4. Field Observation

The food environment of Grand Lomé was observed. Sales outlets selling food products for cooking were visited. The sales conditions, practices and behaviors of vendors in each supply location are the indicators contained in the observation grid. Some sales outlets were photographed as evidence.

2.2.5. Data Processing and Analysis

Microsoft Excel was used to organize the quantitative data. The information was analyzed using R-Studio software, according to the specific objectives pursued. Some precision was achieved through Chi-square and interdependence tests between variables. The content analysis applied to the empirical information gathered through individual and group interviews was based on the similarity and regularity of respondents' statements. These verbal statements were synthesized and the essential ideas retained.

3. Results

3.1. Measuring Food Retail Patronage Levels in Grand Lomé

3.1.1. Presentation of Individuals Surveyed

Table 3 shows the identity of the respondents. The quantitative sample was made up of 57.52% women and 42.48% men. The willingness of respondents to listen to the interviewers was more marked in the municipalities of Golfe 1 (10.5%) and Agoé-Nyivé1 (9.5%). Furthermore, the sample was dominated by well-educated individuals (80.83%) versus illiterates (19.18%). There is also a predominance of craftsmen (25.21%) and tradesmen (22.03%), the majority of whom generally work in the informal sector in Africa. Taking socio-demographic variables into account allows us to determine whether they correlate with household food purchasing behavior. Table 3 below illustrates the identity of the respondents.

Table 3.
Socio-demographic characteristics of respondents.

Indicators	Proportion (%)
Gender	
Female	57,52
Male	42,48
Municipality of residence	
Agoè-Nyivé 1	9,5
Agoè-Nyivé 2	6,6
Agoè-Nyivé 3	6,6
Agoè-Nyivé 4	6,6
Agoè-Nyivé 5	7,2

Agoè-Nyivé 6	6,6
Golfe 1	10,5
Golfe 2	8,2
Golfe 3	8,4
Golfe 4	8,9
Golfe 5	7,5
Golfe 6	6,6
Golfe 7	7
Profession	
Self-employed	6,25
Craftsman	31,04
Trader	22,03
Student	14,30
Retired	3,50
Employee	17,58
Other	5,30
Level of education	
Not educated	19,18
Education through literacy courses	2,33
Primary	11,86
Secondary	37,92
University	28,71

3.1.2. Level Of Recourse to Household Food Supply Outlets

As food outlets often complement each other in terms of food supply, a multiple-choice question was chosen to measure the level of use of each food outlet. The results obtained are presented in figure 2 below. They show a significant difference in the use of food outlets.

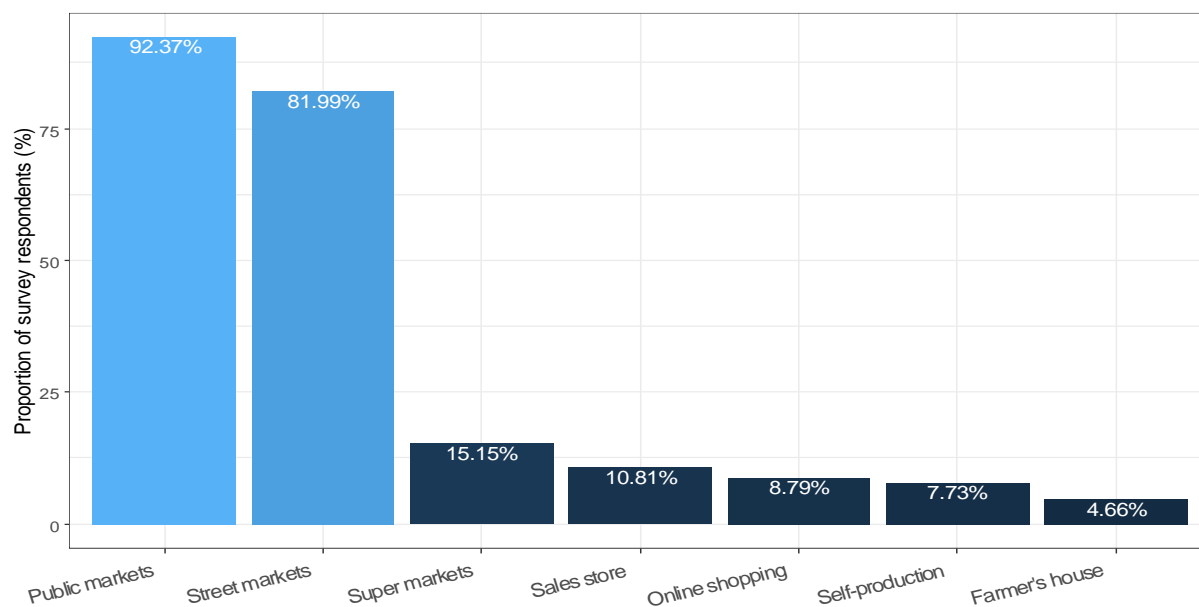


Figure 2. Distribution of surveys according to the food supply outlets frequented.

According to the data in Figure 2, fewer consumers visit characteristic CCs : 8.79% of respondents "buy online" ; 7.73% "self-prepare food" ; and 4.66% of households visit "farmers' houses". Similarly, "boutiques" and "supermarkets", where imported manufactured foods are more widely distributed, are also less used, with 10.81% and 15.15% of visitors respectively. Conversely, households using public markets (92.37%) and informal food shops (81.99%) dominate. In short, public and informal shops make up the majority of food distribution, while CCs play a minor role.

3.2. Correlation Between Patronage of Food Outlets and Respondents' Professional Statut

Figure 3 below shows the relationship between the "profession" of the head of household and the "food procurement locations frequented" through principal component analysis. The first two dimensions alone account for more than half of the total variance in Figure 3 (87.1%). More specifically, the inertia percentages associated with the first two dimensions are 15.8% and 15.5% respectively.

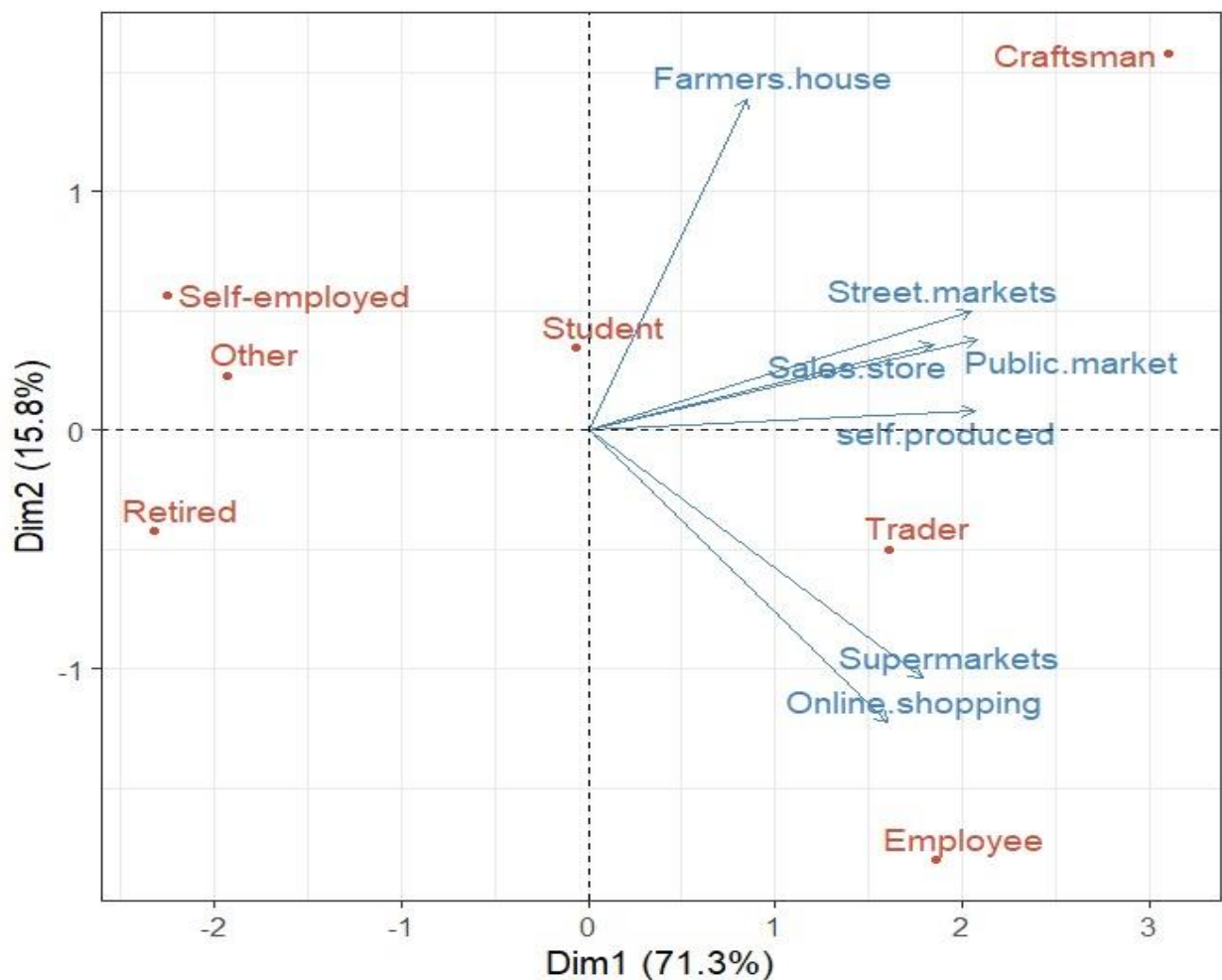


Figure 3. Distribution of respondents by type of business and occupation of head of household.

The data in figure 3 show that employees and shopkeepers, because of their stable monetary incomes, make more of their food purchases in supermarkets and online. But between these two socio-professional categories, shopkeepers are closer to self-producing food than salaried employees. This

situation could be linked to a lack of material time for the latter, due to their professional preoccupations. On the other hand, artisans are more likely to go to public and informal markets, as well as to general food stores; a strong correlation is observed between these three supply outlets frequented by artisans. Students, on the other hand, tend to prefer "farmers' houses", reflecting their understanding of the benefits of local produce.

3.3. Reasons For Choosing Food Outlets in Grand Lomé

A multiple-choice question was used to determine the reasons for visiting food outlets. The answers can be seen in Figure 4 below, highlighting four main motives, two major and two minor.

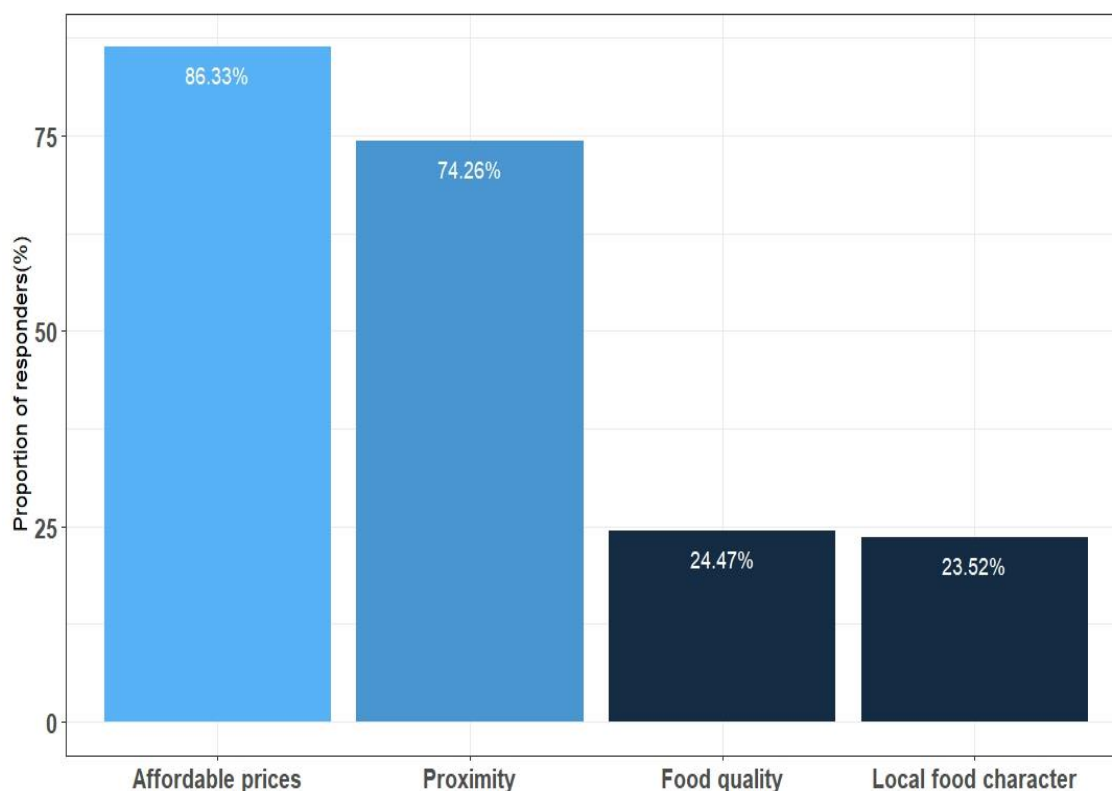


Figure 4.
Distribution of respondents according to reasons for visiting food outlets.

According to the data in figure 4, 86.33% of respondents patronize food stores because of the "affordability" of the food products they offer. But affordability is not the only important factor influencing consumer choice. In fact, 74.26% of households use the food markets close to their homes. On the other hand, "food quality" and "local character of food", indicated by 24.47% and 23.52% of respondents respectively, are secondary concerns that guide food purchasing behavior. We can see that the information in Figure 3 provides an explanation for the previous results on levels of frequentation of food supply outlets (Figure 2). In fact, if people make greater use of public markets and street shops (Figure 2), and if the main reasons for frequenting food outlets in general are lower cost and physical proximity (Figure 3), then it's clear that these are the two outlets that best meet consumers' requirements.

3.3.1. Results of Qualitative Surveys

3.3.1.1. Individual Interviews with Local Authorities

When asked about their contribution to promoting short food chains in their respective communities, the resource persons reveal that food is not a priority for the communes. According to them, there are no partnerships between them and local associations promoting short food chains. However, they claim that several civil society organizations involved in local food consumption have proposed partnerships with a view to reorganizing arable land to better produce and market the foodstuffs needed by the local population. These projects have come to a standstill, however, as it has been explained that city councillors have differing views on the implementation of urban food security projects. This situation reflects a lack of political will on the part of local councillors, and in this case, food is far from benefiting from adequate urban planning.

3.3.1.2. Individual Interviews with Short Food Chain Promoters

According to information gathered from short food chain promoters, there is an economic rationale behind the use of food markets. Firstly, the interviewees explained that customers consider their products to be very expensive, and prefer to buy from markets where the prices of the products suit them. Secondly, the interviewees believe that the vast majority of the population is poor and seeks first and foremost to satisfy their hunger, and in this context, quality is of little importance. These statements confirm the results observed in Figure 4, according to which the "affordable price" of the food was the main reason for choosing the trade, while the "quality" of the food remains a minor motive. Finally, the lack of information on the importance of local consumption, the lack of confidence in the credibility of agroecological foods, and the lack of funding to increase the supply of CCs in order to improve their visibility in relation to other distribution channels, were highlighted as obstacles to the development of CCs in the city of Grand Lomé.

3.3.1.3. Group Interviews with Households in Grand Lomé

From the information gathered at this level, it emerges that frequentation of public markets is based on their economic proximity (affordable food prices), while that of street shops and boutiques is explained by their geographical proximity. According to the participants, supermarkets belong to the affluent social classes, especially as food prices are not within the reach of poor consumers. In addition, the low use of CCs is linked to a lack of communication around these initiatives. In fact, out of a total of 130 heads of household who took part in the group interviews, only 20 claimed to be aware of the existence of the CCs, 07 of whom said they had once made purchases from stores selling local produce. What's more, the 07 people who had once bought from a CC unanimously claimed that the prices of products offered by CCs were still quite high, and this prevented them from returning to these markets.

3.3.1.4. Observation of the Physical Environment of Food Distribution

Our various observations throughout the communes of Grand Lomé revealed the predominance of street food outlets in unsanitary conditions. The size of general food stores is also high. In the downtown communes, each district has a public market, while the outlying communes each have a single public market. Similarly, supermarkets are only found in downtown municipalities. CCs are the most invisible : we counted just 3 agroecological farms and 6 stores selling local produce, one of which is closed due to lack of market. We encountered reluctance on the part of distributors to take pictures of the various food outlets. Nevertheless, the small number of photos taken enables us to appreciate the physical setting of food distribution offered by each type of business.



Figure 5.
Image showing the presentation of food products in a local produce store (Field photo, September 2022)



Figure 6.
Informal market selling fresh vegetables spread out on the ground (Field photo, September 2022).



Figure 7.
Public market with goods displayed on the ground next to an unsanitary dump (Field photo, September 2022).

4. Discussion

4.1. Disparities in the Use of Food Outlets in Urban Areas

According to the information obtained from measuring the level of use of the various existing food outlets in Grand Lomé, public and informal shops make a majority contribution to feeding populations,

while the participation of local circuits is low. As in this study, consumers in Rabat, Niamey and Abidjan were mainly supplied by public markets and informal sales [19]. In these three cities, supermarkets played a marginal but growing role in supplying the middle and affluent classes. This effectively means, as we found in Grand Lomé, that low household income is a brake on supermarket patronage, as was also the case in the African cities of Nairobi and Kampala [23] and in Indian cities [24]. In several studies devoted to food styles in southern countries, public marketplaces and informal sales, despite their unsanitary state exposing consumers to numerous diseases [12,13], remain important in the food culture of urban dwellers and are particularly preferred purchasing channels for working-class households in African cities [14,16]. In particular, the proliferation of street shops can be explained by spontaneous and uncontrolled African urbanization, marked fundamentally by the anarchic occupation of space, and it is this situation that makes sustainable management of these cities difficult [25]. The same observation was made in Windhoek, the capital of Namibia, where the city's strong growth was accompanied by the rapid expansion of informal markets [26]. Even if it is recognized that public and informal markets play a major role in supplying the African working classes [19], the lack of respect for hygiene conditions and the absence of rigorous regulations applied to these markets, as is the case in Grand Lomé, discredits the products sold on these markets [27]. Furthermore, in West Africa, urban agriculture is on the verge of extinction [11, 28]. On the other hand, CCs promoting quality are still in their infancy and therefore lack visibility with urban populations [14,16,19]. It is understandable that this low adoption of CCs is not only observed in Africa. In the French city of Montpellier, for example, although alternative channels to supermarkets and conventional agriculture (direct purchases from farms, the Internet, specialized organic stores, etc.) received excellent media coverage, they accounted for only a limited share of household food expenditure [29].

4.2. Influence of Professional Status on Food Store Patronage

Our research shows that the activity of the head of household determines the type of shop frequented. Handicrafts have a negative influence on access to quality food, as artisans are more likely to frequent public markets, informal markets and stores. However, not only do these shops generally distribute imported foodstuffs, they also do not respect the conditions required to guarantee food safety. At the same time, employees, shopkeepers and students have access to shops offering quality products (internet, supermarkets, local products). These disparities underline the importance of the household head's monetary income in maintaining the food security of the household member. In the Togolese context, handicrafts is not an organized sector of activity. As a result, the majority of these players, often with a lower level of education, still operate in the informal sector, and therefore do not benefit from bank loans to develop their activities. As a result, they are more affected by economic constraints, and this situation may prevent them from frequenting shops offering healthy, nutritious food. In fact, the correlation between occupation and the type of shop frequented, also observed in the Abidjan conurbation in Côte d'Ivoire [16], is not surprising given that African cities have the highest poverty inequalities in the world, with a Gini index of 0.529 compared with 0.509 for Latin American and Caribbean cities, and 0.305 for the European zone [30]. The Togolese survey on Basic Welfare Indicators [31] had already revealed that more than half of Togolese urban households linked their food insecurity to low financial resources. The same study specified that households who were unemployed and, what's more, had no solid income-generating activities, as well as those working in the informal sector, had more difficulty meeting their food requirements. This observation was also made in research in the United States of America, where a 1% increase in the unemployment rate of blacks and a consequent decrease in their monetary income compared with that of whites was associated with a 0.918% and 0.232% increase in the disparity between blacks and whites in food insecurity [32]. Similar work in the cities of Ouagadougou in Burkina Faso, KwaZulu Natal in South Africa, Ethiopia and Poland found that the most food-insecure households were those whose heads were engaged in activities that did not provide a stable income [33, 34,35,36]. This being the case, urban decision-makers urgently need to think about vulnerable households when drawing up and implementing urban food

security policies. CCs in Grand Lomé can contribute to achieving sustainable objectives, provided that the products on offer are adapted to the income level of a greater number of consumers. This is not the case in this research, where we observe a strong influx of people to other markets (public and informal).

The issue at stake in the use of supermarkets by low-income households is consumer well-being. Food purchasing behavior is also conditioned by the environment or food landscape in which the consumer lives. Understood as the sum total of shops, markets and other food outlets in the vicinity of the home and, more generally, in the spaces of daily life, including the spaces around the home, around the main places of professional and non-professional activity, and the routes taken between these different places [37], the food landscape proves to be important in the quest for sustainable food in territories. Correlations have been established between food environments, eating behaviour and individual health [37, 38]. When a consumer's food environment is unhealthy, i.e. does not offer enough shops selling healthy, nutritious, seasonal and affordable products, they are likely to patronize shops that are within their reach, and this is not without consequences for their well-being. For example, in the French cities of Paris and Seattle, shopping in low-cost stores was systematically associated with a higher risk of obesity in households using these stores [38]. In Africa, research into food passageways and their impact on the health of populations is still rare. Our research therefore has the privilege of showing that the food environment in Grand Lomé is dominated by shops that do not provide quality food, on the one hand, and on the other, the vast majority of consumers, especially the most vulnerable, flock to these shops. We are thus providing food for thought for other scientific studies that may look for links between consumer health and the type of shops frequented in this city. In many cities in the North, urban governments have taken these interactions into account by reappropriating their food systems through the support and popularization of CCs [39]. However, in the cities of the South, there is a lack of policies to encourage the emergence of SADs. Food security policies, which are still productivist, give less priority to CCs, which are capable of limiting transport and food losses, thereby lowering food prices for consumers and enhancing the nutritional quality of food [7]. What's more, the players play the game of comparing the price of food from alternative channels with that of supermarkets and conventional agriculture [4]. However, they fail to realize that CCs face strong competition from imported products from the dominant food system, which are granted incentives and subsidies that enable them to externalize social and environmental costs [4]. African governments therefore need to revitalize public policies and work towards internalizing the social and environmental costs of local food systems.

4.3. Motivations For Frequenting Food Outlets in Cities

With regard to the explanatory factors of food behavior, our research highlights four variables: the affordability of food and physical proximity to food shops are the primary causes, while "quality" and the "local character of the food" remain the secondary motives. This observed hierarchy provides an explanation for the low use of CCs by consumers in this research. Indeed, food price stability depends on the balance between supply and demand, whereas the supply of CCs is limited, and as a result consumers claim that food from CCs is expensive. What's more, the CCs are far from being physically close to the beneficiaries, especially as the stores selling local produce, for example, number only 6, compared with 13 urban communes with a total population of 2,188,376 [31]. It is therefore clear that access to CCs and thus to sustainable food in Grand Lomé requires the deployment of significant financial resources on the part of the consumer. This result confirms the findings on the high cost of healthy food in African urban centers [15]. As in this research, the constraints to the development of CCs in Poland were the limited production of local suppliers and the need for CCs to adapt to market requirements [40]. Generally speaking, the reasons for frequenting food outlets remain the same throughout Africa. In the cities of Rabat, Niamey and Abidjan, where the use of public and informal markets was also dominant, as in Grand Lomé, price and geographical proximity were essential factors in the choice of food outlets [19]. In this case, as other studies have already mentioned [41,42], food price remains a powerful factor guaranteeing food security in urban areas. Above all, it guides the buyer's choice, as in

the case of tomato and rice consumption in Grand Lomé [7,43] and poultry meat in the Iranian city of Mashhad [44]. Similarly, in Grand Montpellier, France, the main reason for not visiting supermarkets, organic shops and many other "convenience" stores was the high price of foodstuffs [29]. Beyond the issues of price and proximity, consumers have a key role to play in the emergence of SADs. If food quality and the symbolic dimension of consumption locally remain minor reasons for frequenting shops in our research, it is therefore more than necessary to launch a major project to raise consumer awareness of the importance of supporting DCs. Given that many of the respondents in this article are unaware of the existence of CCs, and others still question the credibility of agroecological products, the implementation of an awareness-raising program will help to inform and reassure consumers. In addition, raising awareness of the dangers of food imports and the increase in chronic pathologies (overweight, high blood pressure, obesity) can help people understand and support short food chains.

5. Conclusion and Recommendations

This research, carried out in the city of Grand Lomé, Togo, and aimed at analyzing consumer behavior towards CCs, came to three conclusions. Firstly, public markets and informal sales account for the bulk of food distribution, while the use of supermarkets and CCs remains low. Secondly, access to shops offering quality foodstuffs depends on the "professional status" of the head of household. Finally, food shops are frequented more for the "affordability" of the food they offer and their "physical proximity" than for the "quality" and "local character of the food". To meet these food challenges, urban decision-makers (State, local elected representatives, civil society) need to consider the following proposals :

- Mobilize sufficient financial resources to support the transition to DCS. These resources should make it possible to improve the supply of CCs, launch consumer awareness campaigns and subsidize the products distributed via CCs so that they are economically accessible to low-income households ;
- Improve the hygiene of public markets by investing in the renovation and construction of basic sanitation infrastructure. Furthermore, since municipalities are managers of public markets, they can promote CCs by erecting policies to raise taxes for sellers of imported products. Conversely, CC products should be allowed to circulate freely by waiving taxes for merchants willing to distribute only these products ;
- Establish regulations to control the establishment of street businesses. If these laws are properly enforced in the field, and the CCs manage to adapt to consumer conditions, i.e. economic and geographical proximity, these forms of commerce can be greatly reduced.

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